NATIONAL IMAGERY TRANSMISSION FORMAT STANDARD (NITFS)
REQUEST FOR CHANGE (RFC)

RFC CONTROL NUMBER 97-002	DATE SUBMITTED 09/25/96 DATE RECEIVED 10/28/96

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ORGANIZATION TYPE Government (DoD)

PRIORITY	FUNCTION Administrative

DOCUMENT NUMBER JIEO CIRCULAR 9008 PAGE 5-29
DOCUMENT NITFS CERTIFICATION TEST & EVALUATION PROGRAM PLAN PARAGRAPH 5-24.L

PROBLEM DESCRIPTION
Criteria for the TACO2 physical interface are not sufficiently specific.

RECOMMENDED WORDING
See Attached

RATIONALE
Criteria need to be more specific to help ensure that all TACO2 implementations are capable of operating with the majority of military communications systems.

REMARKS

The NITFS CTE Facility has been testing according to the requested change since the Spring of 1995.

TOTAL COST OF IMPLEMENTATION~	PROPOSED TIMEFRAME OF IMPLEMENTATION
Minor	

ANTICIPATED USER IMPACT

Will help ensure that all TACO2 implementations can be configured to perform correctly with tactical communications equipment.

NTB REVIEW DATE NTB RECOMMENDATION

SUBSTANTIVE ISSUES

NCCB DECISION IMPLEMENTATION DATE

L. The TACO2 implementation must support the following operation, delays and waits for RS-232C (or equivalent) control signals as specified. Figures 5-X and 5-Y show control lead positions and delays from sample TACO2 traffic. (In this paragraph, a "transmission burst" is defined as a sequence of one or more packets transmitted contiguously. It does not necessarily correspond to a NETBLT burst, although it may.)

1. RTS (Request-to-Send). RTS must be held high while data is being transmitted. The implementation must have a means to wait a user-selectable amount of time after raising RTS and before transmitting data (RTS turn-on delay). The implementation must also have a means to wait a user-selectable amount of time before lowering RTS after transmitting data (RTS turn-off delay). All delays (i.e., RTS turn-on delay, RTS turn-off delay, and half duplex turn-around delay) must be ~~user selectable~~ **configurable** from zero (0) to at least ten (10) seconds in intervals no larger than 200 milliseconds. The physical control lead response must have an accuracy of ±200 milliseconds of the delay setting.

a. Full Duplex. In full duplex mode, RTS may either be kept high throughout the transfer or lowered between transmission bursts.

b. Half Duplex. In half duplex mode, RTS must be kept low between buffers to allow for incoming packets to be received. In half duplex mode, the implementation must wait a user-specified amount of time (half duplex turn-around delay) after checking for DCD to be dropped low (if the DCD check is enabled) and before raising RTS.

c. Simplex. In simplex transmit mode, RTS may either be kept high throughout the transfer or lowered between transmission bursts. In simplex receive mode, RTS must remain low.

2. CTS (Clear-to-Send). The implementation may have an option, which can be disabled, to check and wait for CTS to be high before transmitting each packet or transmission burst. When enabled, the check for CTS must occur after RTS is raised and before initiating the RTS turn-on delay.

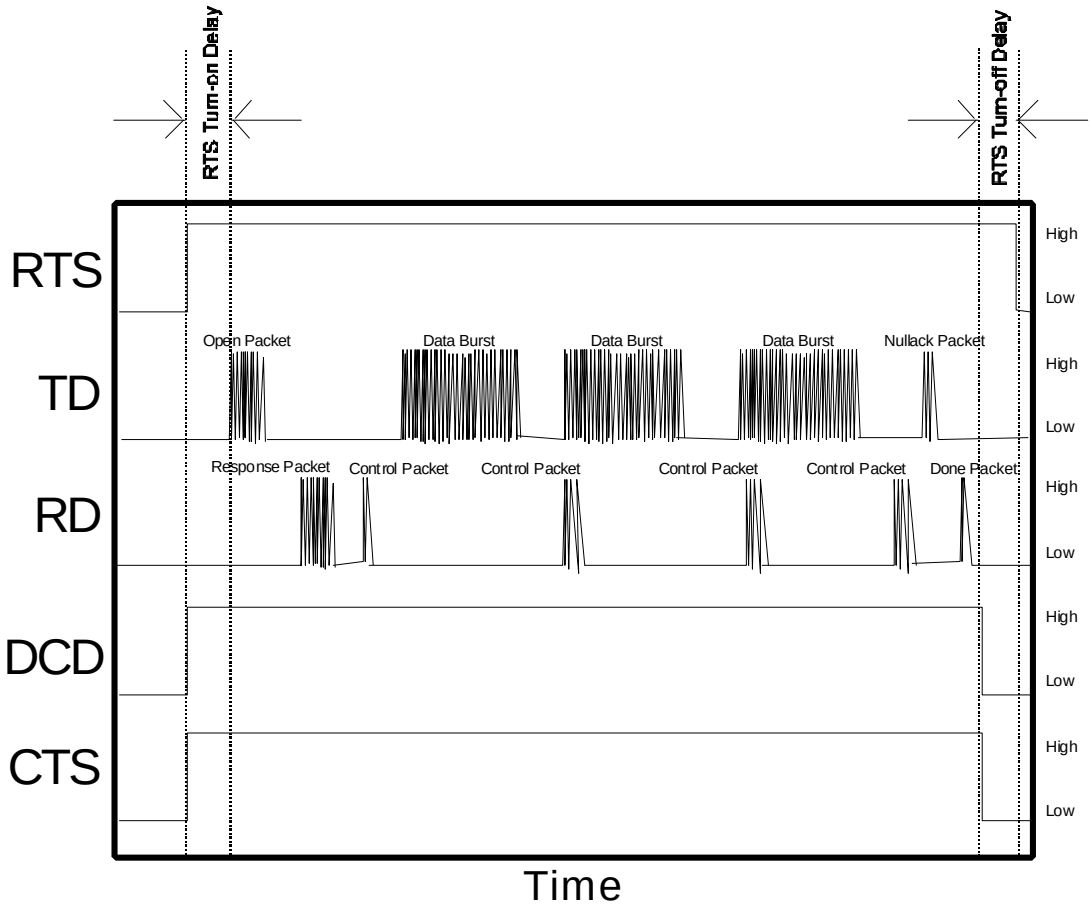
3. DCD (Data-Carrier-Detect). The implementation may have an option, which can be disabled, to check and wait for DCD to be either high or low before transmitting.

a. Full Duplex. When enabled, in full duplex mode, the implementation must check and wait for DCD to be high. In full duplex mode, the check for DCD should occur after raising RTS and before checking for CTS to be high (if the CTS check is enabled) and before initiating the RTS turn-on delay.

b. Half Duplex. When enabled, in half duplex mode, the implementation must check and wait for DCD to be low before waiting the half duplex turn-around delay and before raising RTS.

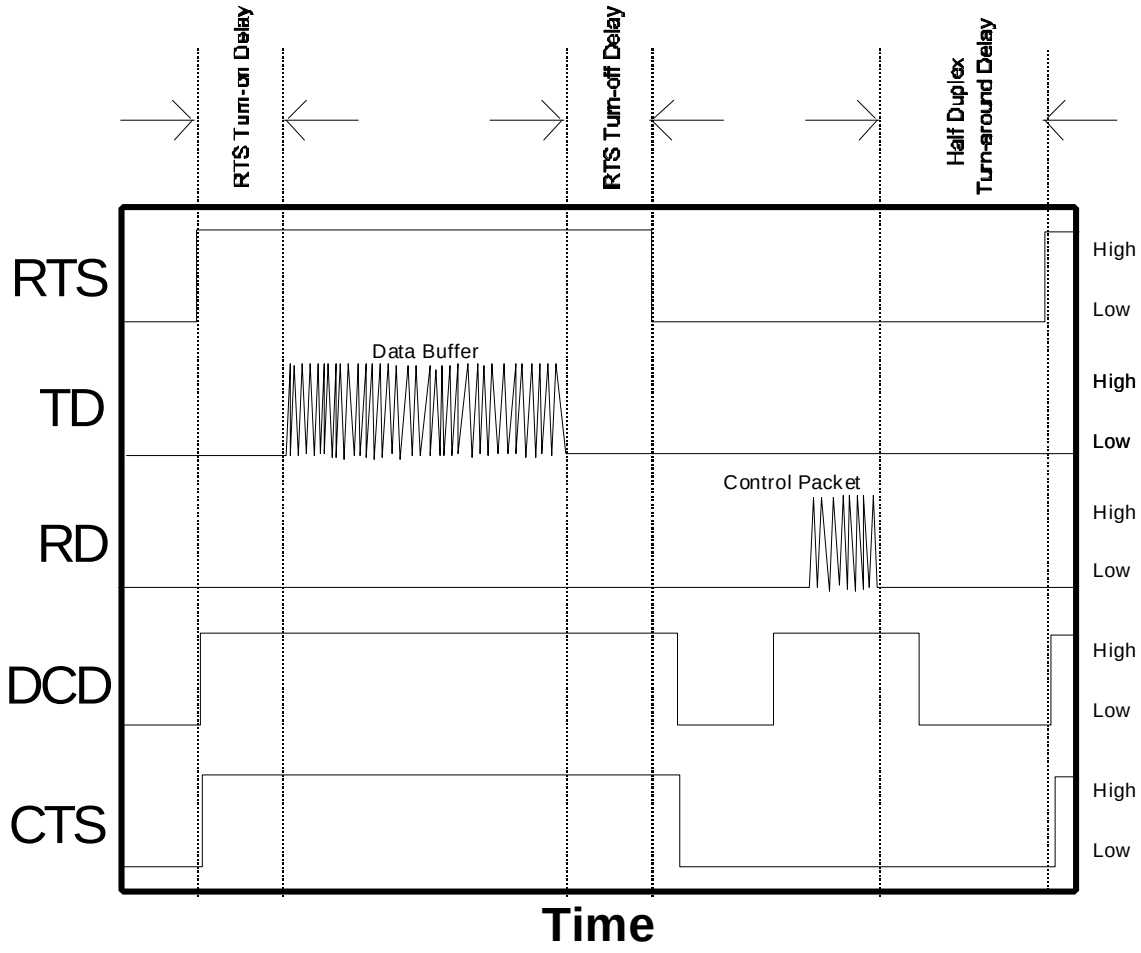
c. Simplex. When enabled, in simplex mode, the implementation may check and wait for DCD to be either high or low. If the implementation is set to check and wait for DCD to be low, the check must occur before raising RTS. If the implementation is set to check and wait for DCD to be high, the check should occur after raising RTS and before checking for CTS to be high (if the CTS check is enabled) and before initiating the RTS turn-on delay.

4. DTR (Data-Terminal-Ready). The implementation must hold DTR high while in receive mode and while transmitting a file. The DTR lead may be used as a resync line when connected to the communications equipment's resync line. If DTR is tied to a resync line, the implementation must pulse the DTR line between bursts or buffers as required to cause the equipment to resync (e.g., the KG-84 requires high voltage for at least 20 milliseconds). If the DTR line is not used as a DTR signal, DTR may need to be tied high on the communications equipment.



System is set to keep RTS high throughout the transfer.
The Check for DCD should occur immediately after raising RTS.
The Check for CTS should occur immediately after the Check for DCD.

Figure 5-X. Control Lead Timing Sample of an entire Full Duplex Transmission.



The Check for DCD should occur before the half-duplex turn-around delay.
The Check for CTS should occur immediately after raising RTS.

Figure 5-Y. Control Lead Timing Sample from a Half Duplex Transmission.